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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/519,666	03/06/2000	Richard Ian Taylor	1263.1195	8730

5514 7590 02/12/2003

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EXAMINER	
AZARIAN, SEYED H	
ART UNIT	**PAPER NUMBER**
2625	

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/519,666	Applicant(s) TAYLOR, RICHARD IAN	
	Examiner Seyed Azarian	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 March 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6 and 8* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The abstract is objected to because it should be in narrative form and generally limited to a "single paragraph" on a separate sheet.

Correction is required.

Examiner suggests, deleting "Figure 1" at the bottom of the abstract.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(c) BRIEF SUMMARY OF THE INVENTION.
(d) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(e) DETAILED DESCRIPTION OF THE INVENTION.

Claim Objections

2. Claims 21 and 22, objected to under 37 CFR 1.75 (c) as being in improper form because the phrase "at least one of claims 9-20, must refer to the parent claims clearly in the alternative. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8-14 and 16-24, are rejected under 35 U.S.C. 102(b) as being anticipated by Robert (U.S. patent 5,214,751).

Regarding claim 1, Robert discloses an image registered for registering the input images recorded at different times, (see Fig. 14, column 19, lines 43-53, refer to inputs registers 120 to 123 which respectively store the four pairs of coordinates applied to the input terminal).

And a pixel value interpolator for interpolating between the pixel values of the registered input images to generate pixel values for interpolated images for the image sequence, (see column 3, lines 24-32, refer to interpolation of images for an

interpolated luminance value for each pixel of an image called the image to interpolated).

Regarding claim 2, Robert discloses apparatus according to claim 1, wherein the image registerer comprises (a) transformation calculator for calculating transformation to transform the input images, (see column 11, lines 43-54, interpolated luminance value has been computed, then value of the coordinate is "compared" and also column16, lines 39-51, refer to input of the multiplexed and comparators 15 and 16).

A transformations applicator for using the transformations calculator to register the input images, (see column 16, lines 39-51 first input applied to a first input of the comparator 15 receives a value of a function read from memory corresponding to the son pixel being processed and the comparator 19 has a second input receiving a "threshold value" and comparators 15 and 16each have a output connected to an input of the logic in order to validate).

Regarding claim 3, Robert discloses apparatus according to claim 2, wherein the transformation calculator comprises a matcher to match features in the input images and a calculator for calculating the transformations on the basis of the matched features, (see Fig. Column 7, lines 3-13, the two base points A and B , selection of the best father pixel consists in "comparing with another the values of pixels with pixels (refer to matching)).

Regarding claim 4, Robert discloses apparatus according to claim 2, wherein the transformation calculator comprises an input signal processor for processing signals input by a user defining matching features, (see column 11, lines 43-54, interpolated

luminance value has been computed, then value of the coordinate is "compared" (refer to matching) and also column16, lines 39-51, refer to input of the multiplexed and comparators 15 and 16).

Regarding claim 5 and 13, Robert discloses apparatus according to claim 2, wherein the pixel value interpolator is arranged to generate the pixel value using linear interpolation, (see column24, lines 48-53, determining an interpolated luminance value for the pixel to be interpolated by computing a linear combination).

Regarding claim 6, Robert discloses apparatus according to claim 1, wherein the pixel value interpolator is arranged to generate pixel values for interpolated images to be displayed in the image sequence in which each input image is to be displayed a plurality of consecutive times, (see column 24, line 67, through column 25, line 3, applied to images by television image frames, and lines 8-11, the invention is applicable in real time to standard changing devices for television frames, and to the restitution of frames transmitted at a very low rate with suppression of a certain number of frames).

Regarding claim 8, Robert discloses image processing apparatus for calculating transformations to register input image with different viewing position, (see Fig. 1, column 4, lines 28-39, refer to different frames or references are differentiated by instants corresponding to the frames and frames are supplied by a source of video signals such as a conventional television camera).

And a pixel value interpolator for interpolating between the pixel values of the registered input images to generate pixel values for interpolated images for the image sequence, (see column 3, lines 24-32, refer to interpolation of images for an

interpolated luminance value for each pixel of an image called the image to interpolated).

Regarding claim 14, Robert discloses a method according to claim 9, wherein, in the step of interpolating, pixel values are generated for interpolated images to be displayed in an image sequence in which each input image is to be displayed a plurality of consecutive times, (see column 5, lines 1-9, refer to sequence of frame is displayed at regular "time intervals").

Regarding claim 17, Robert discloses a method according to claim 16, wherein, the signal comprises image data, (see column 19, lines 25-35, refer to signal supplied by the sequencer in order to read the luminance values (image data)).

Regarding claim 18, Robert discloses a method according to claim 16, further comprising the step of recording the signal either directly or indirectly, (see column 21, lines 62-67, refer to registers 165 to 168, are respectively connected to second inputs of the multipliers 161-164, and the values of the logic signals respectively supplied by the comparators).

Regarding claim 20, Robert discloses an image processing method for generating data for a time-lapse sequence of images, comprising, calculating transformations to register input images recorded with different viewing positions and/or viewing directions, (see column 5, lines 25-36, refer to object in motion and velocity vector, it is represented by a series of pixels having different coordinates).

Regarding claims 9-12, 16, 19 and 21-24, the arguments analogous to those presented for claims 1, 3, 4, 6 and 8, are applicable.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 7 and 15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Robert (U.S. patent 5,214,751) in view of Komiya et al (U.S. patent 6,205,259).

Regarding claim 7, Robert fails to discloses an "overlap detector and interpolating between the pixel values in the area of overlap". On the other hand Komiya et al teaches (Fig. 38 and 39 column 11, lines 1-12 also column 23, lines 49-66, changing the pixel values that occurs in the overlap region due to the correlation and "interpolation" which displacement detecting circuit 24 and the interpolation circuit 25).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to modify Robert invention according to the teaching of Komiya et al because it is techniques by interpolating image data to provide an overlap relation between two windows or images that are respectively assigned to video image processing which can implements to in an motion picture for better result and accuracy.

Regarding claim 15, the arguments analogous to those presented for claim 7, is applicable.

Other prior art cited

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. patent (5,625,410) to Washino et al is cited for video monitoring and conferencing system.

U.S. patent (6,011,901) to Kirsten is cited for compressed digital video record and playback system.

Contact Information

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (703) 306-5907.

The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached at (703) 308-5246.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, D.C. 20231

Or faxed to:

(703) 872-9314, ("draft" or "informal" communications should be clearly labeled to expedite delivery to examiner).

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to T.C. customer service office whose telephone number is (703) 306-0377.

Seyed Azarian
Patent Examiner
Group Art Unit 2625
January. 26, 2003

BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
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